

Sykes et al.

S/N: 10/605,018

**In the Claims**

1. (Currently Amended) A welding power source comprising:  
an output mode selector configured to enable a user to identify one of a number of welding processes for which the power source is capable of providing power; and  
a selector circuit configured to electronically energize ~~at least one~~ an output terminal based on a user input to the output mode selector such that power delivered to the terminal is matched to the welding process identified by the user via the output mode selector.
2. (Currently Amended) The power source of claim 1 wherein the output mode includes one of a constant current (CC) mode and a constant voltage (CV) mode and the ~~at least one~~ output terminal ~~includes a pair of~~ is either a CC output terminals or a CV output terminal.
3. (Original) The power source of claim 1 wherein the selector circuit includes a first set and a second set of electronic switches, wherein the first set of electronic switches is configured to be activated when a first output mode is selected and the second set of electronic switches is configured to be activated when a second output mode is selected.
4. (Original) The power source of claim 3 wherein the first set and the second set of electronic switches include SCRs.
5. (Original) The power source of claim 3 wherein each set of electronic switches includes a single topology of electronic components.
6. (Original) The power source of claim 1 wherein the selector circuit is configured to receive an AC power input from any number of phases.
7. (Original) The power source of claim 1 further comprising a common negative terminal.
8. (Original) A welding power source output mode selector assembly comprising:  
a power input;  
a first inductive element connected to a first mode output and connectable to the power input;  
a filter circuit connected to a second mode output and connectable to the power input; and

Sykes et al.

S/N: 10/605,018

a plurality of electronic switches wherein activation of a first set of electronic switches causes an electrical connection between the inductive element and the power input, and wherein activation of a second set of electrical switches causes an electrical connection between the filter circuit and the power input.

9. (Original) The assembly of claim 8 wherein the power input includes an AC input of any number of phases.

10. (Original) The assembly of claim 8 wherein the first mode includes a constant current output.

11. (Original) The assembly of claim 8 wherein the second mode includes a constant voltage output.

12. (Original) The assembly of claim 8 wherein the plurality of electronic switches includes a plurality of SCRs.

13. (Original) The assembly of claim 8 wherein the filter circuit includes a second inductive element, and wherein the first inductive element and the second inductive element share a magnetic assembly.

14. (Original) The assembly of claim 8 wherein the plurality of electrical switches are of a common topology.

15. (Original) The assembly of claim 8 where the plurality of electrical switches is arranged in one of a single control bridge and a pair of electrically isolated control bridges.

16. (Original) The assembly of claim 15 wherein the single control bridge includes one of a full control bridge and a half control bridge.

17. (Original) The assembly of claim 15 wherein the single control bridge includes one of a common negative output and a common positive output.

18. (Currently Amended) A method of electronically selecting an output of a welder, the method comprising the steps of:

Sykes et al.

S/N: 10/605,018

receiving a user input identifying either a ~~desired output~~ CC or a CV mode of operation for the welder;

from the ~~desired output~~ identified mode of operation, selectively biasing a set of electronic components; and

energizing either a CC output terminal or a CV output terminal based on the set of electronic components biased.

19. (Original) The method of claim 18 further comprising the step of biasing the set of electronic components with an AC input with one or more phases.

20. (Original) The method of claim 18 wherein the set of electronic components includes a plurality of SCRs.

21. (Original) The method of claim 18 wherein the set of electronic components includes a plurality of switches of common topology.

22. (Original) The method of claim 18 further comprising the step of biasing another set of electronic components and energizing the other of the CC output terminal or CV output terminal based on the another set of electronic components biased.

23. (Currently Amended) A kit to retrofit a welder power source to permit electronic selection of an output mode, the kit comprising a circuit having a plurality of electronic components such that a first output terminal of the power source is energized when a first set of electronic components is activated to provide power for a first type of welding process and a second output terminal of the power source is energized when a second set of electronic components is activated to provide power for a second type of welding process dissimilar from the first type of welding process.

24. (Currently Amended) The kit of claim 23 wherein the plurality of electronic components is of a mixed topology, and the first type of welding process is a CC welding process and the second type of welding process is a CV welding process.

25. (Original) The kit of claim 23 wherein the circuit includes a pair of output inductors wherein each inductor has a respective magnetic assembly.